39. (New) A method as set forth in claim 28 including successively introducing into the vacuum chamber a working gas, an inert gas, a reactive gas, and mixtures thereof.

REMARKS/ARGUMENTS

Claims 20-39 remain in the application with apparatus claim 20 and method claim 29 being independent.

The original claims have been re-written as claims 20-39 to remove the section 112 objects and rejections.

The previous claims were rejected over Kay '816 and Wright et al. '941 respectively. The claims distinguish over the references by reciting, inter alia, that the box-shaped structure is itself an electrode. In Kay, the coils 80 on the outside of the chamber as distinguished from the subject invention where the electrodes are the box structure and the interior electrode, i.e., not outside the chamber. The subject invention eliminates the costly coils 80 of Kay.

Similarly Wright discloses an array of coils separate from the structure defining the vacuum chamber.

Neither of the references teach the difference of electrical potentials between the box-shaped structure defining the vacuum chamber and the plasma. The electrodes of the prior art will be contaminated by the coating material. Accordingly, it is respectfully submitted that the claims are now in condition for allowance. Further and favorable reconsideration of the outstanding Office Action is hereby requested.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"VERSION WITH MARKINGS TO SHOW CHANGES MADE."**

Applicant by this Response does not intend to abandon any equivalents under the doctrine of equivalents for the scope of any claim element between the literal scope of the claim element and the scope of the prior art. Any element added to any claim is deemed to have a scope of equivalents as if no amendment to the claim had been made, i.e., as a new claim in a new application. Any amendment made to any claim is made subject to an equivalency existing between the language added and the prior art that need not be detailed here. Furthermore, any

changes to the claims have been made solely for the purpose of clarifying the invention as set forth in each of those claims.

Respectfully submitted,

HOWARD & HOWARD ATTORNEYS, P.C.

February 26, 2003
Date

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CERTIFICATE OF MAILING

I hereby certify that the enclosed **AMENDMENT** and fee is being deposited with the United States Postal Service as postage prepaid, and addressed to the Assistant Commissioner of Patents, Washington, D. C. 20231, on **February 26, 2003**.

Anne L. Kubit

VERSION WITH MARKS TO SHOW CHANGES MADE

IN THE CLAIMS

Please cancel claims 1-19.

Please add the following new claims:

20. (New) A device for the plasma treatment of objects in a vacuum comprising;

a box-shaped structure of an electrically conductive material defining a vacuum chamber to which a vacuum may be applied,

a support for supporting and electrically insulating the objects from the surrounding box-shaped structure,

said box-shaped structure including at least one opening that can be opened for ingress and egress of objects and closed,

said box-shaped structure including a working gas inlet for supplying a working gas and a working gas outlet for discharging the working gas,

said box-shaped structure including an energy opening for introducing energy to create the plasma,

said box-shaped structure having an electrical charge opposite to the charge of the plasma whereby the box-shaped structure acts as an electrode.

21. (New) A device as set forth in claim 20 including an energy electrode extending into said chamber through said energy opening and electrically insulated from said box-shaped structure for introducing the electrical energy to generate the plasma.

22. (New) A device as set forth in claim 20 including a microwave generator for introducing microwaves through said energy opening to generate the plasma in said vacuum chamber.

23. (New) A device as set forth in claim 20 wherein said support provides a predetermined electrical potential to be applied to the objects.

24. (New) A device as set forth in claim 20 including a coating material disposed on said box-shaped structure in said vacuum chamber for removal and deposit on the objects.

25. (New) A device as set forth in claim 20 including a cooling system for cooling the box-shaped structure.

26. (New) A device as set forth in claim 20 wherein said vacuum chamber has a width that is at least one and two tenths (1.2) times greater than the width in the same direction of said support.

27. (New) A device as set forth in claim 20 wherein said gas outlet has a cross-sectional area greater than the sum of the cross-sectional areas of said gas inlet and said energy opening.

28. (New) A device as set forth in claim 20 wherein said box-shaped structure comprises at least in part a metal.

29. (New) A method for the plasma treatment of objects comprising the steps of;

supporting objects in a vacuum chamber defined by a box-shaped structure surrounding and spaced from the objects for electrically insulating the objects from the box-shaped structure,

applying a vacuum to the vacuum chamber surrounding the objects,

generating a plasma in the vacuum chamber having an electrical potential and applying an opposite electrical potential to the box-shaped structure.

30. (New) A method as set forth in claim 29 including placing a coating on said box-shaped structure in the vacuum chamber defined thereby, and removing the coating from the box-shaped structure and depositing the coating material on the objects.

31. (New) A method as set forth in claim 29 including negatively charging the box-shaped structure.

32. (New) A method as set forth in claim 29 including bombarding the box-shaped structure with ions prior to generating the plasma.

33. (New) A method as set forth in claim 29 including supplying a reactive gas to the vacuum chamber while generating the plasma.

34. (New) A method as set forth in claim 29 including introducing a powder into the vacuum chamber and depositing the powder material into the objects.

35. (New) A method as set forth in claim 29 including establishing an electrical potential difference between the box-shaped structure and the plasma in the range of 100 to 1000 volts.

36. (New) A method as set forth in claim 29 including introducing a working gas at the rate of 10 to 1000 cubic centimeters per minute.

37. (New) A method as set forth in claim 29 including establishing an electrical potential difference below 200 volts between the box-shaped structure and the plasma.

38. (New) A method as set forth in claim 29 including establishing a hollow cathode discharge in the vacuum chamber.

39. (New) A method as set forth in claim 28 including successively introducing into the vacuum chamber a working gas, an inert gas, a reactive gas, and mixtures thereof.